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Software reliability modeling by concatenating failure rate

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Abstract

The concatenation of failure rate functions results in point process models that need not p increments, or lack memory features of Poisson processes. Processes having a memory compared to those that do not, and as a consequence provide a credible framework for predicting failure times. The purpose of the paper is to propose and describe a model for s based on this paradigm. The proposed model is adaptive, can explain empirically observe outperforms the predictive ability of its competitors. The model and its inferential mechanis software to implement it with ease, is available

Index Terms

Inspe

Controlled Indexing

[Poisson distribution](#) [software quality](#) [software reliability](#)

Non-controlled Indexing

[Poisson processes](#) [empirically observed phenomena](#) [failure rate concatenation functions](#) [failure times](#) [inferential mechanism](#) [point process models](#) [predictive software reliability modeling](#)

Author Keywords


Not Available

References

No references available on IEEE Xplore.

Citing Documents

1. Better reliability assessment and prediction through data clustering, Tian, J. *Software Engineering, IEEE Transactions on*
On page(s): 997- 1007, Volume: 28, Issue: 10, Oct 2002
[Abstract](#) | Full Text: [PDF](#) (400)
2. Evaluating Web software reliability based on workload and failure data extracted from Rudraraju, S.; Zhao Li *Software Engineering, IEEE Transactions on*
On page(s): 754- 769, Volume: 30, Issue: 11, Nov. 2004
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Markov Chain Software, Markov Process & Model - Relex Markov ...

Markov models are the only accurate method for **modeling** complex ... Thus, a Markov
model is used only when a constant **failure rate** and repair **rate** ...

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Availability Modeling Programs

Allows **modeling** of dependent **failure rates** and repair times, sensitivity analysis
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Modeling of failure mode in knee ligaments depending on the strain ...

Modeling of failure mode in knee ligaments depending on the strain **rate**. Mija Lee

1 and William Hyman2. 1Mija Lee Biomedical Engineering Program, ...

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Understanding Your Product Through Reliability Modeling

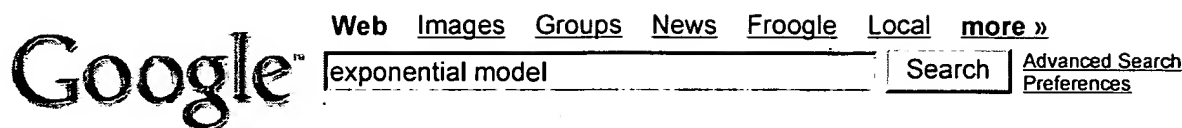
Providing an overview of system reliability **modeling** for single thread and ...

Failure rates for the individual "boxes" of the model can be derived from ...

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Reliability Models for Failure Mechanisms

Failure Mechanism Reliability Modeling, or reliability **modeling**, ... Since temperature
increases the reaction **rate**, then R1 is faster than R2, or $R1 > R2$

**Web**Results 1 - 10 of about 3,190,000 for **exponential model**. (0.26 seconds)**Exponential Models**

The population begins to grow **exponentially**, but then levels off because of such ... this term, linear **models**, quadratic **models**, and **exponential models**. ...

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Exponential Models and Logarithms

Almost all of the **exponential models** we have considered to this point ...

Practice estimating **exponential** and power function **models** by completing the ...

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Constructing Exponential Models

Section 3.3: Constructing **Exponential Models**. In the previous section, ...

Practice determining appropriate **exponential models** by completing the following ...

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Maximum Entropy

MaxEnt and **exponential models**. ... The tutorial discusses the process of growing an **exponential model** by automatic feature selection ("inductive learning," ...

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Course 1 Unit 6 - Exponential Models

Exponential Models is the sixth unit in Course 1 of the Contemporary ... In Lesson 1 of this unit, students investigate and **model exponential** growth using ...

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Exponential Model

Exponential model is associated with the name of Thomas Robert Malthus ...

However, **exponential model** is robust; it gives reasonable precision even if these ...

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Exponential and Logarithmic Models

Exponential Growth and Decay. Two common types of mathematical **models** are ...

This data is approximated well by the **exponential growth model** $P = 100 e^{0.08t}$, ...

www.uncwil.edu/courses/mat111hb/ EandL/elmodels/elmodels.html - 16k - [Cached](#) - [Similar pages](#)

8.1.6.1. Exponential

All the key formulas for using the **exponential model**, Formulas and Plots.

The **exponential model**, with only one unknown parameter, is the simplest of all ...

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Exponential Model NTC Thermistors - BetaTHERM Sensors Temperature ...

Betatherm Sensors is a leading provider of high precision NTC thermistors and probe assemblies to a wide number of sectors internationally including ...

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Malthusian Growth Model, 7/95 Envision It!

In 1798 the Englishman Thomas R. Malthus posited a mathematical **model** of ...